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ABSTRACT

The purpose of the study was to examine existing information on the level of quality of medical care delivered by foreign medical graduates (FMGs), as part of a broader consideration of policies relating to FMGs and health care delivery in the United States. Quality of care is considered to comprise both technical care and the "art of care." FMGs do differ from U.S. medical graduates (USMGs) with respect to structural characteristics: (1) FMGs are younger than USMGs; (2) they have a longer undergraduate education (with less clinical experience and less favorable faculty-student ratio, generally); (3) as a group, they are less successful on the usual screening (ECFMG), licensure (FLEX), and specialty board certification examinations than are USMGs as a group: and (4) a high proportion of FMGs had some or all of their medical education in English, but problems with English as a second language persist. A number of basic similarities between FMGs and USMGs exist: (1) they train and practice in specialties to the same degree; and (2) although FMGs are found to a much higher degree than USMGs in training programs that are unaffiliated with medical schools, an ever-increasing proportion take their training in affiliated programs. Two studies using process measures to assess the quality of care delivered by USMGs and FMGs were inconclusive. Lack of concrete evidence made formulating policy recommendations difficult. However, four areas of future research or evaluation are proposed: comparative studies, education of the less able practitioner, quality assurance and peer review, and characteristics of the FMG physician pool. (Author/MSE)

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FOREIGN MEDICAL GRADUATES AND THEIR EFFECTS ON THE QUALITY OF MEDICAL CARE IN THE UNITED STATES

PREPARED FOR THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE AND THE SUN VALLEY FORUM ON NATIONAL HEALTH, INC.

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PREFACE

This report was prepared as a background paper for the winter 1975 meeting of the Sun Valley Forum on National Health, which was devoted to the subject of foreign medical graduates (FMGs) in the health care system of the United States. The paper was commissioned for a session directed specifically at the topic "Are Foreign Medical Graduates the Source of Any Serious Problems?" Other papers at the Forum dealt with such subjects as deprivation of educational opportunities for U.S. youth, useful contributions of FMGs to U.S. health care delivery, "brain drain" from less developed countries, and policy options and alternatives.

The research reported here was supported partly by Grant No. 016B-7401-P2021, Department of Health, Education, and Welfare, and partly by the Sun Valley Forum on National Health, Inc. An earlier version of this report appeared in the *Milbank Memorial Fund Quarterly*, Fall 1975.

SUMMARY

The specific purpose of this study was to examine existing information on the level of quality of medical care delivered by foreign medical graduates (FMGs), as part of a broader consideration of policies relating to FMGs and health care delivery in the United States.

Quality of care is considered to comprise both "technical" care and the "art of care." Structural, process, and outcome variables commonly used to measure quality are briefly described. The literature contains very little information on direct (e.g., process or outcome) measures of the quality of care provided by FMGs; moreover, few proxy (structural) measures are *clearly* related to performance.

FMGs do differ from U.S. medical graduates (USMGs) with respect to certain structural characteristics. FMGs taken together are younger than USMGs. They have a longer undergraduate medical education (which typically has less clinical experience and a less favorable faculty-student ratio). As a group, they are less successful on the usual screening (ECFMG), licensure (FLEX), and specialty board certification examinations than are USMGs as a group. A surprisingly high proportion of FMGs had some or all of their medical education in English, but problems with English as a second language persist.

A number of basic similarities exist between FMGs and USMGs. FMGs train and practice in specialties to the same degree as do USMGs, and roughly the same proportion opt for one of the five major specialties. Although FMGs are found to a much higher degree than USMGs in training programs that are unaffiliated with medical schools, an ever-increasing proportion take their training in affiliated programs.

The few studies of "perceived" quality of care have generally subscribed to the notion that medical care delivered by FMGs in the U.S. setting is at a generally lower level than that delivered by USMGs.

Two studies using process measures to assess the quality of care delivered by USMGs and FMGs were inconclusive. One showed FMGs to be intermediate in performance between USMGs and graduates of unapproved U.S. schools, and foreign-born FMGs to have a slightly better performance record than U.S.-born FMGs. The other indicated that FMGs in private practice serving a Medicaid population in one southwestern state practiced medicine at a level not very different from that practiced by USMGs; in this case, the quality variable was the rate of denial for payment of injections given to ambulatory patients.

Lack of concrete evidence made formulating policy recommendations difficult. Nevertheless, four areas of future research or evaluation are proposed: comparative studies, education of the less able practitioner, quality assurance and peer review, and characteristics of the FMG physician pool. Comparative studies must proceed from measures of performance, not just measures of knowledge; and FMGs should be compared with USMGs, not judged against ideal standards (on which even USMGs might be found wanting). Resources of the U.S. medical education system might be focused more on improving the health care capabilities of the less able practitioner, and less on making the best a little better. With respect to quality assurance and peer review, FMGs should be subject to the same mechanisms as

USMGs, in the same manner and to the same degree. Finally, the extreme range of characteristics, capabilities, and performance records of FMGs is emphasized. This heterogeneity of the FMG physician pool is of primary importance in policy-making; the single criterion "foreign-trained" is unsuitable for evaluation or policy-making purposes.

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I. INTRODUCTION

Foreign medical graduates (FMGs) are those physicians who have graduated from medical schools outside the United States and Canada. FMGs constitute over 20 percent of all doctors in the United States; this proportion has grown substantially over the past decade, generating heated debate over the need for, and propriety of, importing physicians instead of producing them domestically. Increasing numbers are coming from Third World countries, especially in Asia, South America, and Africa (DHEW, 1974). The increase in annual immigration of FMGs into the United States over the past ten or so years has been steady, although because of difficulties with migration statistics there is some disagreement on the magnitude of the increase and on whether growth in the stock of FMGs is likely to recede, stabilize, or accelerate in the future (Lowin, 1975). In any event, international ramifications to the exodus of highly skilled manpower from those regions persist.

Government agencies, professional organizations, educational institutions, and health services researchers have produced a number of monographs and reports on this subject during the past four years.[1] These publications have advanced recommendations or policy options on a variety of FMG issues, including the need for additional descriptive data about FMGs, changes in U.S. immigration laws, changes in medical educational programs, solution of manpower distribution problems, development of common professional standards for both FMGs and U.S. medical graduates (USMGs), and the role of professional and government agencies in solving these issues. They tend also to pay homage to the sentiment that the United States has an obligation to meet her own needs in the area of health manpower.

Apart from these political issues, the level of quality of medical care provided by FMGs has become a major question related to both health care delivery and health manpower production; it has, however, received rather less analytic attention than have issues of supply and distribution. The purpose of this study, therefore, is to review available information on this quality issue and to formulate some suggestions for policy research or evaluation. For discussions of policy recommendations about FMGs that are not specifically related to quality of care, the reader is referred to the publications cited above.

At the outset, we assume that the quality of care delivered by FMGs is an important component of policymaking on the conduct of medical practice in the United States. If the overall quality of medical care provided by FMGs were found to be below commonly accepted U.S. standards, then quality might be the predominant consideration in subsequent policy decisions on their practice of medicine here. If, however, medical care by fully qualified foreign-trained physicians were shown to be the equivalent of that rendered by domestically trained physicians, then major policy decisions on the use of FMGs in U.S. medical practice could be made explicitly on political, economic, or ethical considerations without recourse to specious argu-

[1] Association of American Medical Colleges (AAMC), 1974; *Hospital Practice*, 1974; Lowin, 1975; National Advisory Commission on Health Manpower, 1967; National Board of Medical Examiners, 1973; Ronaghy et al., 1974; Silver, 1975; Sodeman et al., 1973; Sprague, 1974; Stevens and Vermuelen, 1972; Torrey and Taylor, 1973; U.S. Department of Health, Education, and Welfare (DHEW), 1973, 1974; Weiss et al., 1974a; Williams, 1975; Williams and Lockett, 1974.

ments about quality. Information about the performance of special categories of FMGs could also lead to group-specific options and render policies of either total acceptance or total elimination obsolete.

II. QUALITY ASSESSMENT

The definition of quality of care includes at least two concepts: the level of the technical medical care provided, and the level of art of care provided (i.e., personalized supportive care, or Samaritanism, to use McDermott's term (1974)). Technical medical care here is taken to represent the adequacy of the performance of preventive, diagnostic, and therapeutic procedures with respect to the patient's needs or conditions. Art of care refers to the ambiance and manner of physician care relative to the patient as an individual. These two concepts are not assumed to be additive; they probably interact in a complex manner.

Quality of personal health care is probably no more (and quite possibly less) important in determining levels of health in given populations than are genetics, environment, patient behavior, and the current state of public health. Moreover, with respect to improvement in an individual's health status, quality considerations are operative only after a threat to health is perceived and personal health care services are sought and obtained. The abundance of factors that may intervene in this process before quality issues become relevant may render quality, at least from the societal point of view, of only marginal importance in determining health status. Finally, the level of quality provided is influenced by health system characteristics and personal, educational, and sociocultural characteristics of providers and patients.

This is not to say that quality assessment has no role to play in health policymaking. Current literature increasingly reflects interest in and application of measures of quality. Traditionally, quality assessment has focused on so-called structural variables, which are descriptive characteristics of facilities, health manpower, or other components of health care delivery that could be related quantitatively to one another and to the population served. Most of the evaluations that can be made of the quality of care delivered by FMGs must be made in terms of structural criteria.

Quality assessment methodology has been advanced through development of process and outcome measures. Process measures are those that evaluate how a person is moved into, through, and out of the health care system—i.e., what is done to or for a patient with respect to his particular disease or complaint, and how well it is done. Outcome measures describe what happened to the patient in terms of palliation, cure, rehabilitation, or whatever other "outcomes" are applicable. The point at issue typically is whether the health status of the patient was improved (or stabilized) by the medical care provided.

The intrinsic conceptual and methodologic problems with all three types of quality measures, especially when each is used alone, have been discussed by Brook and Williams elsewhere (1975). Moreover, these measures are all oriented primarily, if not exclusively, toward technical medical care, not the art of care. Furthermore, little information is available about the quality of care delivered by FMGs measured in terms of process measures, and none in terms of outcomes. With these caveats in mind, it is possible to begin to evaluate the quality of care delivered by FMGs and to draw from that evaluation certain hints as to the avenues policymaking might follow.

III. ASSESSMENT OF QUALITY IN RELATION TO FOREIGN MEDICAL GRADUATES

PREVIOUS EVALUATIONS

Earlier reviews and evaluations of one or more structural measures tend to corroborate the assertion that FMGs, taken as a group, will deliver lower quality medical care than their U.S. colleagues; the remarks cited below are representative of such reports. These broad generalizations about the entire FMG population on the basis of these measures may be overly harsh or unduly sweeping, however. Alexander (1974), for example, argues that "doctors from the nonwhite countries of the world are a maligned minority. A continuing debate by 'researchers' questioning the competence or abilities of doctors from 'poor countries,' can only result in such biased pronouncements becoming self-fulfilling prophecies."

In a discussion of FMGs in psychiatry, Torrey and Taylor (1973) noted that "among the foreign-trained group, there are some whose level of psychiatric expertise is not up to generally accepted American standards." Cserr (1973) added: "What seems to prevail for foreign physicians . . . is: (1) their use . . . as primary service-deliverers, . . . and (2) their general inadequacy, because of the lack of special attention to their needs for the American psychiatric scene."

A dual standard exists for selecting physicians into graduate medical education, whereby the screening examination of the Educational Commission of Foreign Medical Graduates (ECFMG) is considered the equivalent of and used as a substitute for admission, promotion, and graduation assessment during a four-to-six year educational career in the United States. According to the AAMC (1974), this "double standard results in wide disparity in the quality of the physician admitted to deliver care in the United States. It undermines the process of quality medical education in this country and ultimately poses a threat to the quality of care delivered to the people."

Dublin (1974b) defined two extremes of the heterogeneous FMG population: those who meet "the most exacting standards of professional qualification required for academic appointment to the United States medical schools" and those (large in number) "who are not legally qualified for the independent practice of medicine. . . . Evidence suggests that this distribution is heavily weighted near the lower range of professional competence." Maltby (1973) argues that there is "an imminent danger of extending what now appears to be a double standard of graduate medical education to encompass a double standard of medical practice, one standard for USMGs and another standard for graduates of foreign medical schools."

McDermott (1974) claimed that the United States already has a two-level M.D. system, in which the FMG operates under severe handicaps (lack of command of English, less success on pertinent examinations, and lack of trust in basic ability). "It seems reasonable to make the judgmental decision that present FMGs (virtually all from only a few countries) are not adequately prepared to perform either the technologic or the samaritan function of general medical care in a satisfactory fashion." Finally, Lowin (1975) asserted "when viewed against American standards

for medical training and certification, there is considerable basis to question the competence of FMGs as a group."

STRUCTURAL MEASURES

Typical structural variables used as proxy measures of the level of care provided by physicians include age, type of graduate medical education (including whether training took place in a hospital affiliated with a medical school), licensure status, specialty, and specialty board certification status. An additional set of characteristics pertinent to FMGs covers native language and culture, language of undergraduate medical education, and status of certification by the Educational Commission of Foreign Medical Graduates (ECFMG). Table 1 summarizes data on some common structural measures of USMGs and FMGs. (Unless otherwise indicated, statistical data are taken from DHEW, 1974.)

Age

The FMG population is generally younger than the USMG population; in 1970, for example, 46 percent of FMGs and 37 percent of USMGs were under 40. Another indicator of the relative youth of FMGs is that about 27 percent of FMGs were house staff (interns and residents) in 1970, compared with 13 percent of USMGs. One can infer that most (but not all) FMG house staff are at the beginning of their professional careers, as are U.S. house staff.

Undergraduate Medical Education

Information derived from the *World Directory of Medical Schools* (World Health Organization (WHO), 1973) for 1970 gives some impressionistic ideas of certain factors pertinent to undergraduate medical education. For example, the model length of undergraduate medical education in the United States is four years, following 15.5 years of school, for a total of 19 to 20 years of education prior to the M.D. degree. Countries currently contributing the largest number of FMGs to the United States are not substantially different from this U.S. norm. Receiving the M.D. degree takes 20 years of education in the Philippines; 19 years in Taiwan, Iran, Pakistan, and Italy; and 18 years in Korea, Thailand, Spain, and Egypt. At least two years less schooling than the U.S. norm are required in India, Mexico, and Argentina. There are differences between foreign countries and the United States in the proportion of time spent in premedical education (university level) and medical education; in general, foreign countries require from one to three years less in premedical studies and one to two years more in undergraduate medical training. Leaving aside for the moment the issues of clinical content of the curriculum, one might conclude that FMGs get roughly the same *amount* of schooling prior to the M.D. degree. See Table 2.

Size of medical school classes is often considered a negative aspect of foreign training. The size of entering and graduating classes varies widely among the various donor countries, from an average of about 75 students admitted per school in 1970 in Korea, for instance, to about three times that many in the entering classes in the Philippines (WHO, 1973). Carter et al. (1974) quote a figure for first year

Table 1

SUMMARY OF SELECTED DESCRIPTIVE CHARACTERISTICS (STRUCTURAL MEASURES) OF FOREIGN MEDICAL GRADUATES AND U.S. MEDICAL GRADUATES (PERCENT)

Structural Variables	U.S. Medical Graduates	Foreign Medical Graduates	Total
Age (1970)			
Under 40	37	46	
Over 40	63	54	
Total	100	100	
Residency Training in Hospitals (1972)			
Affiliated hospitals	94	84	
Nonaffiliated hospitals	6	16	
Total	100	100	
Country of Graduation of Residents in Hospitals (1972)			
Affiliated hospitals	71	29	100
Nonaffiliated hospitals	36	64	100
Specialty Practice			
General practice	19	12	
Five major specialties[a]	38	40	
Other specialties	43	48	
Total	100	100	
Board Certified Specialist (as of 1970)	41	16	
ECFMG Examination Pass Rate (1958-1973)	98 (expected)	38	
State Licensure Examination Pass Rate (1972)	89	64	
English as a Native Language	100	6.4 — 1970 population (by COG)[b] 7.1 — 1972 immigrants (by COLPR)[b] 2.7 — 1972 immigrants (by COB)[b]	
English as the Nominal Language of Medical Instruction	100	37.4 — 1970 population (by COG)[b] 51.7 — 1972 immigrants (by COLPR)[b] 48.9 — 1972 immigrants (by COB)[b]	

SOURCES: DHEW (1974); WHO (1973) for length of school and language of medical instruction.

[a]Internal medicine, pediatrics, obstetrics-gynecology, general surgery, and psychiatry.

[b]COG: country of graduation; COLPR: country of last permanent residence; COB: country of birth.

Table 2

LENGTH OF SCHOOL FOR M.D. OR EQUIVALENT DEGREE[a]

	U.S. Medical Graduates		Foreign Medical Graduates	
Degree	Modal Years	Range	Modal Years	Range
Undergraduate	15-16	(12 *6)	12	(11-15)
Medical	4	(3-6)	6	(4-7)
Total	19-20	19-20	18	(17.5-20)

SOURCES: DHEW (1974), WHO (1973).

[a]Top 12 countries contributing FMGs to graduate medical education in 1972.

enrollment in the United States of 11,348 (in 103 schools) in 1970, for an average of 110 students. The crucial point is not the absolute size of the classes, however, but the availability of adequate facilities, equipment, and above all full-time faculty per student. Faculty-student ratios in many, if not most, large donor countries are widely believed to be substantially less than the U.S. norm.

In addition, the language of study is potentially a critical factor. A surprising number of countries (or schools within any given country) list English as the language of instruction (or as a companion to the native language). For example, of the 219 schools in 12 countries in 1972 that ranked highest in the number of FMGs in graduate medical education (internships and residencies) in the United States, 98 indicated instruction in English, and another 11 indicated instruction in English and the native tongue (see Table 3). This information should be viewed cautiously. For example, curriculum presentations in Taiwan are generally considered to be given mostly in Chinese, even by faculty fluent in English, and instruction in Thailand is most often in Thai even at schools listing English as a coequal language. Instruction in India (see, for example, Myre, 1973) in many schools that are nominally English language may well be in English for didatic work, but clinical training can be expected to be in the local language (e.g., Bengali). The Philippines may be an exceptional case. Because of the diversity of the local languages and historical development of Filipino education (Mamot, 1974), the language of medical instruction is English. An additional factor is the acknowledged goal of Filipino schools to prepare students for the ECFMG examination.

Especially pertinent to a discussion of quality of health care delivered is the degree to which clinical training in undergraduate medical education approaches the U.S. experience. With respect to schools overseas, even fragmentary data are hard to come by. There does seem to be general agreement that the fairly early one-to-one patient contact seen in some U.S. schools is not the norm in those countries contributing the greatest number of FMGs to the United States. In India, a rural "internship" is required as part of graduation requirements. It includes public health, survey research, and community education tasks not normally associated with an internship (or even with a U.S. "clinical clerkship"). The five years of medical school in the Philippines include one year of "internship," but this may approximate the clinical level of third or fourth year U.S. medical students. Schools

Table 3

ECFMG AND STATE LICENSURE EXAMINATION RESULTS AND LANGUAGE OF MEDICAL INSTRUCTION OF FOREIGN MEDICAL GRADUATES FROM SELECTED DONOR COUNTRIES

Donor Countries[a]	ECFMG Examination Percentage Pass Rate (1972)		State Licensure Examination Percentage Pass Rate (1972)		Number of Schools	
	Rank	Percentage	Rank	Percentage	Total	Nominal English Instruction
India	5	41	2	77	94	77
Philippines	11.5	23	12	52	7	7
Korea	1	56	6	65	4	4[b]
Taiwan	3.5	42	10.5	55	6	4[b]
Thailand	3.5	42	3.5	72	4	4[b]
Iran	9	26	8.5	58	7	1
Pakistan	10	25	3.5	72	7	5
Spain	11.5	23	1	80	16	0
Mexico	8	28	8.5	58	24	0
Italy	6.5	34	7	60	24	0
Argentina	2	51	5	66	9	0
Egypt	6.5	34	10.5	55	7	7[b]

SOURCES: Licensure and ECFMG Examination, DHEW (1974); language of medical instruction, WHO (1973).

[a]The 12 countries contributing the greatest number of FMGs in graduate medical education in 1972, in order of largest number.

[b]English and native language combined, in one or more schools.

in Mexico require between one-half and one year of "social services" and a "clinical clerkship" as part of the medical degree requirements. Anecdotal evidence about the Autonomous University of Guadalajara (Moser, 1975; Greer, 1975), which has by far the highest number of U.S. citizens studying medicine abroad, indicates serious deficiencies in clinical training. The nature of the direct patient care duties in these situations is not clear, but they are believed (see, for example, Lachman (1974)) not to be the equivalent of the clinical experience in the comparable years of medical education in the United States.

Finally, Dublin (1974a) notes that national health problems and the milieu in which health care is delivered vary widely between the donor countries and the United States and among the donor countries themselves. To the extent that foreign medical school curricula are attuned to national problems, FMGs may come to this country with a superior knowledge of tropical medicine or of diseases germane to young populations living in primitive conditions. Emphasis in their medical curricula on the epidemiology and prevention of such diseases would be appropriate to donor countries' needs; it would not prepare FMGs sufficiently to deal with the chronic diseases, psychosomatic complaints, or other illnesses of an urbanized, post-industrial, and aging population.

Graduate Medical Education

In the past two decades, FMGs have done their graduate medical education in hospitals unaffiliated with medical schools in much higher proportions than USMGs, which has been taken as an indication that FMGs will provide lower quality of care. In recent years, however, the vast majority of FMGs in graduate medical education (especially residencies) were in affiliated hospitals. In 1972-73, for example, 84 percent of all FMG residents were in affiliated hospitals, compared with 41 percent a decade earlier. The fact that hospitals with graduate training programs have simultaneously acquired affiliation status confounds the picture somewhat, but the point is that FMGs as a group are not overwhelmingly relegated to less prestigious (and presumably less effective) programs.

ECFMG Certification

With regard to the issue of quality, several aspects of certification by the ECFMG should be considered. The extreme differential between the USMG expected pass rate (98 percent—based on fourth year United States medical students) on the ECFMG examination and the current (and quite stable) FMG pass rate of about 38 percent is disquieting. Of the countries contributing the largest proportion of FMGs in graduate medical education in a recent year, the ECFMG pass rate in 1972 did not exceed 56 percent (Korea) and was as low as 23 percent (the Philippines and Spain) (Table 3). The ECFMG procedure is intended to serve as a screening device for suitability for supervised training, not for independent medical practice. Thus, the argument that USMGs several years out of medical school could not pass at the expected 98 percent rate is irrelevant; the correct body on which to standardize the ECFMG is indeed fourth year United States medical students, who are about to embark on several years of supervised training.[1]

The number of FMGs taking the ECFMG examination in the United States, which is substantial, is growing. Since the ECFMG is usually taken before admission into this country, the large number of candidates domestically implies a high proportion who were previous failures (although this would not necessarily be the case) and an alarming number active in the U.S. medical care system with (at least temporarily) substandard qualifications. These suggestions are reinforced by the fact that the pass rate in the United States is lower than the overseas rate (implying possibly a hard core of repeated failures and a candidate group both older and out of school for a longer period); for example, the domestic pass rate in 1972 was 29 percent, the overseas rate was 44 percent.

A large and growing number (and proportion) of the ECFMG examinees are repeaters (DHEW, 1974), regardless of whether the test site is in the United States or overseas. For example, repeat candidates outnumbered first-time candidates in 1972 by 16,500 to 15,500. With respect to this repeater group, does finally passing the ECFMG examination truly reflect material learned and assimilated or only that the candidates have become more "test-wise?" The issue is confounded by the fact

[1] For those (apparently few) FMGs who come to the United States at the height of sophisticated professional careers, the preparation needed for successful performance on the ECFMG examination (but not for competent medical or academic practice) is an unwarranted hardship. The notion of granting waivers or exemptions to stringent admission or licensing requirements for senior foreign-trained physicians of established reputation has been advanced by some, and should be fully explored.

that a not insubstantial fraction of the repeaters have taken the examination more than one previous time; the performance of multiple retesters is poorer than the performance of one-time retesters.

The call for and popularity of "review" courses, primarily serving repeaters already in the United States, raises another related problem. The beneficial short-run effects of "cramming" are well known, but the half-life of such knowledge is admittedly short. This calls into serious question the long-run utility of these review courses. Mason (1974), however, notes the presence of 10,000 "not quite physicians" of whom less than 20 percent are currently being salvaged; he foresees additional review courses as a means of salvaging twice this many FMGs for acceptable quality medical practice. McGuiness (1974) appears to support this contention, arguing that it is better to add this group of FMGs to the U.S. health manpower pool through updating and review programs than to allow them to drift on the periphery of the medical care system. On the positive side, then, review courses probably enable a few FMGs to pass the ECFMG subsequently and to enter better training programs than they might otherwise have done. This may have positive implications for quality of care, although as Lowin (1975) points out, the "*successful* product is an FMG who . . . is only marginally competent."

Weiss and his colleagues (1974a), reporting on a survey of candidates who took the ECFMG examination in January 1973, noted that 20.8 percent of the 850 interview candidates and 20.9 percent of the 3935 questionnaire respondents had passed. Of the group of FMGs employed in the health care system (as reported in the questionnaire), only 15 percent passed, while 26 percent of those not so employed passed. Yet 60 percent of the interview and 48 percent of the questionnaire sample candidates were working in the health field. Of these, 73 and 55 percent had direct patient care responsibilities, although it is not clear how much these were carried out in an unsupervised way. Thus, at least four FMGs providing direct patient care failed the examination for every one who passed. (That is, approximately 1889 were working in the health field and an estimated 1378 of these can be presumed to have had direct patient care responsibilities. Approximately 283 of the 1889 FMGs passed the ECFMG examination, or at best about 20 percent of the 1378 with patient care activities.) Weiss and his colleagues concluded that "the results . . . are sufficient to cause alarm regarding the state of control of the health care system," and in the companion paper (Weiss et al., 1974b), they concluded, "many FMGs do not come close to the minimal standards set for United States medical graduates."[2]

Licensure Status

At least two facets of licensure are particularly relevant to quality and FMGs.

[2] Lowin (1975) devotes a lengthy discussion to a critique of the Weiss studies (see pp. 246-255), partly on the grounds that direct patient care responsibility does not automatically imply physician roles or lack of adequate supervision. He believes that the cause for alarm is overstated, although there is presumably cause for unease. Lowin also takes issue with the numbers of FMGs estimated or imputed to be in the medical underground (e.g., neither fully licensed nor in approved training programs, yet practicing medicine in some form or another). He estimates that 7500 to 12,000 FMGs are not fully licensed but delivering patient care, but he makes the interesting point that "there is no evidence from which to argue that these FMGs are any less competent as a group than most of the others" (p. 255). The implication is that the FMG quality question indeed goes far beyond the issue of the less than fully licensed physician.

The first issue, that of FMGs who hold temporary or institutional licenses,[3] is being more widely discussed (Derbyshire, 1975) and studied (Kleinman et al., 1974). This problem is critical because it implies the need for control, supervision, or review of what FMGs with such licenses do, and because such licenses can be renewed quite easily without such supervision. The continued existence and growth of this not fully licensed group has been advanced as the major question of the FMG quality controversy, especially considering the large number of FMGs in the United States who potentially fall into this category. A figure upward of 10,000 has been cited by both Mason (1973) and Weiss et al. (1974a), and Lowin (1975) puts the upper bound of the estimate at 12,000 (as of 1973).

Results of a study of FMGs who were in graduate training in the United States in 1963 and were still in the United States in 1971 (Goldblatt et al., 1975) demonstrated a relationship between visa status and acquisition of a full license to practice, and between the state in which the FMG practiced and full licensure. The closer FMGs were to being U.S. citizens, the more likely they were to be fully licensed. There was also considerable variation among states in the rates of licensure for FMGs, but not for USMGs. FMGs tended to be licensed at a slower rate than USMGs, and many were unlicensed for a longer segment of their medical careers than U.S.-trained colleagues.

Second, the proportion of FMG candidates taking state licensing board examinations (FLEX, or the Federation Licensing Examination) who fail each year is substantially higher than the proportion of U.S. candidates. Furthermore, the disparity would probably be larger if one added to the U.S. group the large number of candidates for the National Boards (who rarely sit for state boards because they receive state licenses by endorsement of their National Boards); they would, on the basis of National Board experience, be expected to bring the average pass rate for USMGs on FLEX to even higher levels. One can reasonably expect some FMG candidates who fail the FLEX examination to form a fairly permanent pool of less than fully qualified doctors who are not likely to return to their home countries. Often these physicians hold permanent resident visas or are in the process of becoming U.S. citizens, and they choose to remain in or return to internship and residency status, forming a group for whom house officership is a way of life, perhaps permanently (Haug and Stevens, 1973). They may also remain in state or other public or private institutions under the aegis of temporary or institutional licensure. The challenge then becomes one of enhancing the learning and skills of those less than fully qualified FMGs who are capable of progress to "independent" practice and removing from "quasi-independent" medical practice (although not necessarily from the health care sector *per se*) those incapable of the necessary improvement.

Knobel (1973) has asserted that coming from a developed country or coming from an English-language country appears to be associated with success on the FLEX examinations, although other observers (Williams and Politzer, 1973) have questioned the strength of the association. Neither of these factors may be relevant for the future, however, as the number of FMG FLEX candidates begins to mirror immigration patterns. For example, 12 countries accounted for 75 percent of all

[3] Partly to circumvent licensing requirements for facilities wishing to acquire the services of unlicensed physicians (generally FMGs), various states have established limited forms of licenses or educational permits. These tend to take the form of temporary renewable licenses limiting the recipient to medical practice for only one or a few years, or institutional licenses restricting the holder to medical practice in the facility in which he is employed or enrolled for some sort of graduate training.

FMG state board candidates in 1972; seven were in the Far East or South East Asia (Philippines, India, Korea, Taiwan, Iran, Thailand, Pakistan), three in Latin America (Cuba, Colombia, Mexico), and one each in Europe (Spain) and Africa (Egypt). None was English-speaking. The pass rates on the 1972 state licensure examinations varied from 52 percent to 80 percent (Table 3). Pass rates for schools within each country tend to vary as much as intercountry pass rates. India, for example, had a country pass rate of 77 percent, but pass rates of the individual schools that contributed the vast majority of Indian candidates ranged from 50 percent to 91 percent (American Medical Association, 1973).

Ranking these 12 countries according to pass rates on the ECFMG and FLEX examinations shows surprisingly little correspondence between these two pass rates (Table 3). Only Thailand appears in the upper quarter in both listings; Italy, Mexico, and Iran are in the middle half; and Pakistan is in the lower quarter.

Specialty

Generally speaking, FMGs do not differ appreciably from USMGs in the proportion who are specialists. The self-selected nature of specialty categorization should be noted, however. Some specialists (e.g., internal medicine) may have practices verging on general family practice, while many subspecialists (e.g., endocrinologists) may have practices comprising all types of internal medicine conditions. Some general practitioners may indicate a specialty primarily because they choose to restrict their practices to those fields and not because they have taken or completed training in them.

In 1970, about 12 percent of FMGs and 19 percent of USMGs were general practitioners. Some 40 percent of all FMGs were in one of five major specialties (internal medicine, pediatrics, obstetrics-gynecology, general surgery, and psychiatry), compared with 38 percent of the USMGs. Lowin (1975) reports a "relative participation index" of specialty choice that shows a slightly higher representation of FMGs in primary care (basically, first year residencies in internal medicine, obstetrics-gynecology, pediatrics, family practice, and general practice). Some specialty differences do exist in terms of location of practice: A higher proportion of hospital-based USMGs than hospital-based FMGs are found in the five "major" specialties noted above; the proportion of FMGs and USMGs in office-based practice in those five specialties is about the same. The proportion of FMGs in pathology and anesthesiology is higher and in ophthalmology and orthopedic surgery lower than for USMGs. The basic impression is, however, thar FMGs are specialists to at least as high a degree as USMGs.

Specialty Board Certification

Using specialty board certification as an indicator of true specialty and as a proxy for expected quality of care gives a negative picture of FMGs, at least with respect to their chosen medical specialty (Lowin, 1975). Because of differentials in age, level of training completed, and discriminatory regulations in the past, it is not desirable to compare FMG and USMG populations too stringently on current board certification levels. FMGs constitute 20 percent of all physicians in the United States; however, only 11 percent of all specialty certifications in 1972 were held by FMGs (9 percent by non-Canadian FMGs). In 1970, some 16 percent of all FMGs were

board certified, compared with 41 percent of USMGs. Among those presumed eligible for certification (i.e., not in training), the figures are 23 and 43 percent. Among those FMGs and USMGs holding certifications, 56 percent of the USMGs and 52 percent of the non-Canadian FMGs were certified by boards of internal medicine, surgery, pediatrics, obstetrics-gynecology, or psychiatry; thus, the specialty choice patterns cited above tend to be supported by board certification data. Nevertheless, the proportion of FMGs attaining board certification is far lower than expected, even considering their younger age and greater proportion in training.

Data published in *Resident and Staff Physician* on some specialty board examinations confirm that FMGs are notably less successful than USMGs on both written examinations and (to a lesser extent) on oral examinations. In internal medicine, for the period 1962 through 1968, the average pass rate of USMGs (including Canadians) was 74 percent, whereas for FMGs it was about 35 percent. In orthopedic surgery, first time results in the 1973 examination were as follows: USMGs, 86 percent pass rate; FMGs, 52 percent pass rate. In pediatrics, the written examination in 1974 had a pass rate of 75 percent for board-eligible USMGs and 54 percent for FMGs; on the oral examination (representing candidates who had passed the written examination some years earlier), the pass rates were more similar; 89 percent for USMGs, 80 percent for FMGs. Finally, Shires (1971) and Ravitch (1974) report that the failure rate of FMG candidates on the first (written) examination by the American Board of Surgery averages three to four times higher than the failure rate of U.S. candidates and one and one-half times higher on the oral examination. Ravitch (1974) attributes the high failure rate among FMGs primarily to deficiencies in basic medical school preparation abroad and in clinical training in this country, and not to problems of language or other acculturation difficulties.

The Significance of Structural Variables

The conclusions about FMGs that might be derived from these structural data are mixed, in part because the relationship between structural variables and the quality of care delivered is ambiguous. Graduate medical training, especially in programs affiliated with medical schools, does appear to correlate with higher levels of quality of care (as measured by process criteria). Morehead (1958), for example, concluded from the findings of a study of the quality of care delivered by family physicians in the Health Insurance Plan of Greater New York that the dominant factor that led to the delivery of high quality care was the number of years of hospital training (after graduation from medical school) in an approved training program. In a later study on medical and hospital care obtained by Teamsters' families, Morehead et al. (1964) found a marked difference in the quality of care delivered, depending on the affiliation status of the institution in which the patient was hospitalized.

Being a specialist *per se* does not seem to be linked automatically with higher quality care. Payne and Lyons (1973a and b), however, have shown in both the hospital and office practice settings that being a so-called "modal" specialist is correlated with higher quality; in their terminology, a modal specialist is a physician trained to treat specific conditions or diseases of his patients. For example, for the patient with kidney stones the modal physician is a urologist, not an internist. The problem of "non-modal" physicians (either generalists or specialists) delivering

much of the medical care in the United States today extends beyond the issue of FMGs.

The relationship between specialty board certification and higher quality of care is also controversial. Morehead et al. (1964) noted that patients under the care of a physician certified by an American specialty board were judged to have received the highest proportion of optimal care, although this was true only when care was given in hospitals affiliated with medical schools. In her earlier HIP study (1958), too, the positive relationship between board certification and quality was striking. In addition, analysis by Brook and Williams (forthcoming) of two years of peer review data from the New Mexico Experimental Medical Care Review Organization (EMCRO) substantiated the notion that board certification is related to higher quality care (as judged by a lower rate of denial for payment of injections for ambulatory patients). However, Payne and Lyons (1975a and b) have concluded from their study of office and hospital practice that board certification status is not related to the level of quality of care provided.

The relationship between quality of care and full licensure (as opposed to temporary or institutional licensure) is basically inferential; no studies have attempted to make direct evaluations of the level of medical care delivered in terms of licensure status. Since the question of physicians delivering medical care with less than full licenses arises primarily with respect to FMGs, it has just recently become a topic of professional concern. Moreover, the relationship between the various other FMG-specific structural variables (ECFMG certification, language of medical education, and so forth) on the one hand and quality of care provided on the other are not any more firmly established than is the relationship between full licensure and quality.

Summation

Although the relationship between structural variables and the quality of care delivered remains tenuous, it is not unreasonable to conclude that the cumulative weight of the evidence discussed above supports the contention that some FMGs, particularly the less than fully licensed group and the group at the beginning of their graduate medical training, are more likely to provide lower quality care than their counterparts who were educated in the United States. This conclusion is based primarily on three persistent themes: deficiencies in clinical training beginning at the level of medical school abroad and continuing through at least some graduate training programs here, difficulties with English, and an apparent low rate of achievement of standard professional credentials.

To the extent that certain structural measures have been demonstrated valid for differentiating among USMGs, it seems reasonable also to use them in differentiating between USMGs and FMGs. If such structural variables are shown through subsequent research on quality assessment not to be strongly associated with the quality of care delivered, then obviously they must be abandoned. Meanwhile, the relationship between any one of these structural variables and performance in medical practice has not been sufficiently established to permit outright policy regulation on that basis, for either USMGs or FMGs. Taken together in some fashion, however, such variables may suggest the possibility (if not the probability) of being predictive of subsequent physician performance; they are thus indicative of avenues for policy research that could lead to minimal standards of education.

Creating FMG subgroup "profiles" from these structural variables, which could be used to predict probable levels of quality of care and permit differential policies without discriminatory overtones, would seem justified. Such activities could be directed at breaking the chain of events that creates and perpetuates the "less than fully qualified" syndrome, especially as it affects FMGs as a group.

PROCESS MEASURES—TECHNOLOGIC ASPECTS

Process measures have been little used as a means of assessing the quality of care delivered by FMGs. Some indirect evidence suggests that if process variables were to be assessed, at least some FMGs might well be found wanting. Norton and Eiseman (1973) and Silva (1974), for example, have recommended curriculum content of remedial or orientation courses, which tends to support the belief that FMGs need help in basic medical techniques to raise them above minimum standards in areas such as medical recordkeeping, appropriate history and physical examination procedures, or care of special groups of patients.

Only two studies using some type of process measures are known to have included an analysis of physicians by country of origin. As discussed above, Morehead (1958) performed a study on the quality of medical care provided by family practitioners in the Health Insurance Plan of New York. Of the 407 physicians studied, half had graduated from approved U.S. and Canadian medical schools, 42 percent from foreign medical schools, and 8 percent from unapproved U.S. schools. Of the 170 FMGs, 84 were American-born. Performance varied by country of medical graduation (Table 4). Physicians were placed into one of three categories on the basis of performance according to a number of process criteria. These were measured on the basis of a medical record review (history-taking, diagnostic management, and treatment and follow-up) and on subsequent physician interview. Graduates of approved U.S. and Canadian medical schools had the best performance record—i.e., the highest percentage of physicians in Class I and the lowest percentage in Class III. Foreign graduates had an intermediate record, and graduates of unapproved U.S. schools had the poorest. Grouping foreign-trained physicians by country of graduation—

Table 4

PERFORMANCE RANKING OF FAMILY PHYSICIANS IN THE HEALTH INSURANCE PLAN OF GREATER NEW YORK, BY COUNTRY OF GRADUATION, 1954

Country of Graduation	Number	Performance Ranking: Percent in Class[a]			
		Class I	Class II	Class III	Total
Approved U.S. and Canadian schools	205	45	34	21	100
Unapproved U.S. schools	32	25	28	47	100
Foreign schools	170	30	33	37	100
Total	407	37	33	30	100

SOURCE: Recalculated from Table 1, Morehead (1958).

[a]Class I was the best category.

Scottish licensure, Northern European, and all others (Southern and Central Europe, British Isles, and South America)[4]—revealed large differences only in Class III, where graduates of the Northern European schools had a higher proportion than the other categories. In general, foreign-born FMGs tended to have a slightly better performance record than did U.S.-born FMGs.

Evidence from the New Mexico Experimental Medical Care Review Organization (EMCRO) suggested that FMGs practiced medicine at a level not unlike that practiced by USMGs (Brook and Williams, forthcoming). New Mexico physicians reviewed all injections given to Medicaid patients on the basis of appropriateness and medical need. Non-Canadian FMGs billed 0.22 injections per ambulatory visit and had 0.08 injections denied (for medical reasons) per ambulatory visit; of all injections billed, 36 percent were denied for medical reasons. Similar figures for USMGs were 0.19, 0.06, and 31 percent. Thus, a Medicaid patient in New Mexico who saw a solo physician (one who billed under a unique provider number) was not much more likely to receive an inappropriate injection if the doctor were foreign-trained than if the doctor were U.S.-trained. It should be emphasized that these differences, although statistically significant, were small when compared with differences found as a function of other structural variables such as board certification status, provider type, or specialty. Moreover, before these results can be generalized, similar studies should be conducted using additional quality of care criteria in states that have larger numbers of FMGs.

Several proposed studies may provide additional information in the next few years. For example, data from Payne's two studies in Hawaii are being reanalyzed to make more explicit the differences and similarities between and among USMGs and FMGs. Other EMCROs (e.g., in Mississippi) and newly emerging Professional Standards Review Organizations (PSROs) may be able to analyze claims data and peer review activities in terms of physician characteristics, including country of origin. Unfortunately, the value of these or other such studies for policy formulation may be reduced by the small number of FMGs included in the sample, by the institution-based nature of the sample, or by the association between type of hospital and very large numbers of FMGs in those hospitals. There remains a need for studies of the quality of care provided by nonhospital-based FMGs that are sufficiently broad to give adequate representation to the diverse elements of the FMG population.

PROCESS MEASURES—THE ART OF CARE

No data are available describing or measuring the art of care provided as a function of whether the provider was a USMG or an FMG. This "humanitarian," personalized concept of health care was hypothesized to be as important in quality of care assessment as were the technical aspects of medical care. Much of medical care is just that—care and not cure. Verbal and nonverbal communications that educate, reassure, and explain symptoms and conditions to the patient and that encourage the patient to adapt to a complex medical regimen or improve his health habits are important conponents of medical care. Work in conceptualizing, defining, and measuring this complex variable is just beginning. Provider factors such as

[4] The absence of any FMGs from Asia is interesting and underscores the change in physician migration patterns in the past two decades.

native language, mastery of English as a second language, sociocultural background, and attitudes could play a major role in predicting and determining the level of the art of care provided. With better methods to assess art of care currently becoming available, the ability to differentiate between FMGs and USMGs along this dimension is at least technically feasible. It seems imperative that information about this important variable be gathered so that hypotheses concerning the communicative skills (or lack of them) of FMGs can be either substantiated or put to rest.

PERCEIVED QUALITY OF CARE

Little has been written on the quality of care provided by FMGs as judged by perceptual or observational techniques. Halberstam and his associates (Halberstam and Dasco, 1966; Halberstam and Marsh, 1966; Dasco et al., 1968) rated performance of FMGs in residency training in university-affiliated hospitals in the mid-1960s. Residents in internal medicine, physical medicine and rehabilitation, and surgery were rated by themselves, by their supervisors, and by their U.S. colleagues on knowledge of basic medical sciences and clinical medicine, knowledge of English, overall performance, and personality characteristics. As a group, the FMG residents were rated lower on these variables than were USMG residents.

Halberstam et al. (1971) also surveyed a sample of 200 foreign-trained interns in community (nonaffiliated) hospitals. These interns reported a higher case load than was reported by hospital authorities; the interns also reported too little medical supervision of their activities. Discrepancies between interns and hospital administrators in their perceptions of the difficulty of the training program were thought to be explained by three problems: supervision by first-year residents who were themselves foreign-trained, serious language difficulties (making communication with patients more difficult than expected), and excessive laboratory work (leading to more time spent on each case and less time for educational pursuits). "Training" that consists mostly of service and is not oriented toward education, as in this case, probably has serious negative implications for quality of care in later independent practice.

Margulies et al. (1968) compared FMGs and USMGs as house officers and gave a somewhat more critical appraisal of FMGs' clinical abilities. Pairs of USMG and FMG interns and residents in 1956 hospitals that were selected randomly were evaluated by supervisors on such variables as performance of general hospital duties, history-taking and physical examination, and basic medical science knowledge. The evidence suggested that FMGs were significantly lower in competence than USMGs in the same training program, although not professionally incompetent.

OUTCOME MEASURES

No data are available on the influence of the FMG/USMG variable on patient outcomes, yet these are precisely the data upon which policy decisions should be made. Measuring quality of care based on outcome measures involves attempting to correlate a set of health care activities with the eventual consequences for the patient, clearly a much more complex and difficult task than is the case with either

of the other types of quality measurements discussed above. Aside from the embryonic nature of outcome measures in general, they have been developed for only a few conditions. Moreover, a great many factors contribute to a poor or good outcome, some of which are not physician-specific at all. For instance, circumstances requiring a physican to treat a "nonmodal" patient, or extrinsic patient characteristics such as insurance coverage or personality, must be controlled for in any analysis of physician performance. The problem of deciding which provider is responsible for the outcome of care when multiple providers treat a patient for a single episode of illness must also be confronted. It would be difficult to design a retrospective study that would adequately control for these complexities. Consequently, if sound inferences based on outcome measures about the quality of care delivered by FMGs and USMGs are desired, well-designed prospective studies are needed to link patient problems to episodes of illness to specific providers and thence to patient outcomes. Data of these types will be available in a few years from the ongoing Health Insurance Study being carried out by The Rand Corporation (Newhouse, 1974; Kisch and Torrens, 1974).

IV. RECOMMENDATIONS AND CONCLUSIONS

Available data on quality do not permit unequivocal conclusions about the level of care provided by FMGs. Inferences have been made, primarily on the basis of structural variables, that some FMGs, especially those less than fully licensed, are likely to provide lower quality care than fully qualified USMGs. These inferences lend themselves to a number of recommendations directed primarily at improving the quality of care now available in the United States. Some of these recommendations have been made elsewhere (Stevens and Vermeulen, 1972; DHEW, 1974, 1975; Sun Valley Forum, 1975). For example, elimination of the less than fully qualified medical practitioner (whether foreign or domestically educated) through restructuring of the licensure and medical practice acts is needed. Abrupt changes, however, would result in hardship for many disadvantaged patients who use hospitals staffed by physicians who lack full and unrestricted licenses. To prevent a short-term harm (even on behalf of a long-term good), provisions must be made for the continued operation of such facilities with qualified staff, which most likely would require state or federal action.

There is anecdotal evidence from supervisors of some less than fully licensed physicians that the level of care they provide is equal to that of their fully licensed colleagues (Levitt, 1975). A well-designed study that confirmed or refuted such an assertion might have far-reaching implications, especially if it provided evidence that parts of the typical medical curriculum are irrelevant to the practice of high quality medicine.

Establishment of a single examination to screen both USMGs and FMGs for acceptance into graduate training programs is also necessary. It is hoped that efforts to construct such an examination would be expanded to test its validity, by determining through a longitudinal study whether physicians who score well on the test actually practice high quality medicine thereafter.

In addition to these types of recommendations, there are some broader implications of the quality issue worthy of further attention: (1) implementation of quality of care studies that compare FMGs with USMGs, not with ideal standards; (2) improvement of the health care capabilities of the less able provider (either FMG or USMG); (3) follow-through on the principle that "quality assurance" and "peer review" programs are administered impartially toward FMGs and USMGs alike, in keeping with the need to maintain a single standard of care across all population and provider groups; and (4) allowance for the heterogeneity of the FMG physician pool (as seen in the extreme range of characteristics, capabilities, and performance records of FMGs) in all pertinent policymaking activities.

COMPARATIVE STUDIES

If quality considerations are expected to contribute to solution of the FMG issue, then clearly better, more systematic information on this subject will need to be gathered. The first and easiest recommendation, then, is the collection and analysis of data on FMGs and quality of care. Beyond this, however, certain generic prin-

ciples must be taken into account. Any study on this topic should compare FMGs with USMGs, not FMGs with ideal standards. Virtually all studies of quality of care, which typically have used process criteria, have documented deficiencies in the provision of personal health care services in the United States. It would be unfair to evaluate the care given by FMGs by these same criteria and then conclude that since their care falls below the expected standard, they alone should be subjected to greater regulation or review.

Any comparative study must be based largely on performance measures, not solely on cognitive knowledge. Performance variables should consist of measures of the technical care and the art of care, as well as selected patient outcomes. This will require the collection of data from a combination of sources, including observation of providers, review of medical records, and patient interviews. Moreover, these studies should not examine only the performance of FMGs who are either hospital-based or in training, but should include studies on the office-based private practitioner.

Results of such studies are unlikely to demonstrate that a majority of FMGs, let alone each and every FMG practicing medicine in the United States, had a performance level grossly below that of the typical USMG. Indeed, it is likely that the performance curve for FMGs will substantially overlap that for USMGs. Multivariate analysis might be a useful technique in such studies, but multivariate analysis of data on physician characteristics, with the purpose of predicting physician performance, has to date been disappointing. At the present time, therefore, research is unlikely to produce any equation by which policymakers would be able to predict (with a reliability much better than chance) before entrance into the United States whether a particular FMG would provide satisfactory care. Predictions as to the likelihood that carefully profiled subgroups of FMGs will attain certain benchmark levels of professional achievement might be possible, however. These results could be used by policymakers to identify groups of FMGs likely to have trouble in the United States and to develop programs to prevent them from permanently becoming part of the less than fully qualified pool of foreign physicians.

EDUCATION OF THE LESS ABLE PRACTITIONER

Implicit in this study has been the theme that more reliable and valid measures of quality are needed. The relationships between criteria for admission into and promotion through the entire medical education system on the one hand and ultimate level of quality of care delivered on the other need explication and validation. These relationships might be built into a conceptual model broad enough to include characteristics of FMGs as well. Such a model might then be used to identify physicians who could be expected to deliver less than adequate patient care.

Traditionally, U.S. undergraduates who apply to medical schools are screened according to fairly explicit standards of excellence; by and large, better students go to the better medical schools. At the time of internship and residency, a screening process again occurs, and the better medical students in general obtain the better house-officerships. Finally, this screening process is repeated at least one more time, when the physician embarks upon his private career. On the whole, the more able residents often seem to take up their careers in environments that enhance and support their abilities; the less able residents may not be so fortunate.

Although this is an oversimplistic description, it serves to highlight the heart of the FMG issue from the quality point of view. FMGs, taken as a group, seem to represent an exaggeration of this process. More often than USMGs, they take unapproved or less desirable residency positions. In and out of training, they are placed in environments that are, so to speak, "nonmodal" and that require skills they do not possess.

At present, then, the resources of the U.S. medical education system (especially in internship and residency training) appear to be devoted primarily to making the best of these young physicians (foreign or domestically trained) a little better. Perhaps the time has come for such institutions to take on more responsibility for improving the health care capabilities of the less able as well. The notion of equity in health care for all Americans carries with it the requirement that variability in performance between FMGs and USMGs (or among FMGs and USMGs) be reduced to a minimum with no deleterious effect on the mean level of care. One challenge to U.S. medical education is to devise ways to meet the critical needs of the less able without sacrificing the needs of the more talented. Implementation (especially at the federal level) of diverse approaches to this problem on an experimental basis does not appear to be an unreasonable proposal.

QUALITY ASSURANCE AND PEER REVIEW

For those FMGs who have or will have progressed successfully through the U.S. graduate medical education system to become fully licensed, independent practitioners, no FMG-specific policy recommendations with respect to quality assurance are warranted. FMGs should be subject to whatever quality assurance and peer review mechanisms are instituted in the coming years, in the same manner and to the same degree as USMGs. These quality assurance systems, which one hopes will be based on performance rather than knowledge variables, should also develop procedures whereby physicians who are practicing inferior medicine are reviewed more often or more carefully than are those physicians meeting or exceeding quality standards.

Most of the activities of any quality assurance organization should be directed to improving the delivery of health care by both USMGs and FMGs, not to regulating or restricting them in the practice of medicine. Professional Standards Review Organizations and other peer review authorities will need to design monitoring, feedback, and educational procedures that elicit the best possible patient care from all physicians, whether U.S. or foreign trained, and extinguish patient care activities that do not contribute to that goal. The touchstone in quality assurance is performance, not country of graduation.

THE FMG PHYSICIAN POOL

Many sensibilities—American and non-American—are offended by the tendency to view and judge FMGs as a uniform class of physicians. The importance of distinguishing characteristics within the FMG population is difficult to overstate, and the heterogeneity of the FMG physician pool must remain a primary consideration in any policymaking activities.

Characteristics that usefully differentiate among FMGs would seem to fall naturally into two categories. Intercountry differences would include historical, cultural, religio-philosophical backgrounds; types of medical education and graduate training; and language of home and medical instruction. Intracounty (i.e., interpersonal) differences include such factors as medical school attended, degree of previous success in home countries, reasons for migrating to and remaining (or not remaining) in the United States, and general personality characteristics. The FMG group is no more monolithic or unvarying than is the USMG group; it probably is less so, given the broad range of these potential differences.

The failure to distinguish among different types of FMGs has resulted for too long in the belief that all FMGs are alike. It fosters the notion that those FMGs who have become successful, fully qualified providers are more like the less than fully qualified FMGs on the medical periphery than they are like their fully qualified U.S. colleagues. The challenge is to reaffirm the preeminence of individual physician performance (however measured) as the criterion by which all physicians shall be judged. The single criterion "foreign trained" is simply too broad to be used for policymaking purposes, at least with respect to quality of care; when used in this manner, it takes on the connotation of discrimination. Resolution of the FMG issue will be better advanced when attention is directed to certain subgroups of FMGs (perhaps, for example, those not ECFMG-certified, those not fully licensed or those clearly deficient in English language skills) and when many factors other than quality of care are carefully considered.

REFERENCES

Alexander, C. A., "Popping the Myths About Foreign Doctors," *The Baltimore Sun*, Sunday, 27 October, 1974.

American Medical Association (AMA), *Medical Licensure Statistics for 1972*, 1973.

Association of American Medical Colleges (AAMC), Task Force on Foreign Medical Graduates, "Graduates of Foreign Medical Schools in the United States: A Challenge to Medical Education," A Supplement, *Journal of Medical Education*, Vol. 49, August 1974, pp. 809-922.

Brook, R. H. and K. N. Williams, *Effect of the New Mexico Peer Review System on Cost and Quality of Medical Care*, The Rand Corporation (forthcoming).

——, "Quality of Health Care for the Disadvantaged," *Journal of Community Health*: Vol. 1, September 1975, pp. 132-156.

Carter, G. M., D. S. C. Chu, J. E. Koehler, R. L. Slighton, and A. P. Williams, Jr., *Federal Manpower Legislation and the Academic Health Centers: An Interim Report*, The Rand Corporation, R-1464-HEW, April 1974.

Cserr, R., Discussion of "Cheap Labor from Poor Nations," *American Journal of Psychiatry*, Vol. 30, April 1973, pp. 433-434.

Dasco, M., L. Antler, and H. Rusk, "The Foreign Medical Resident Training in the United States," *Annals of Internal Medicine*, Vol. 68, 1968, pp. 1105-1113.

Derbyshire, R. C., "Warm Bodies in White Coats," *Journal of the American Medical Association*, Vol. 232, 1975, pp. 1034-1035.

Dublin, T. D., "The Federal Government's Concern for the Foreign Medical Graduate," *Federation Bulletin*, Vol. 61, June 1974a, pp. 183-196.

—— "Foreign Physicians: Their Impact on U.S. Health Care," *Science*, Vol. 185, August 1974b, pp. 407-414.

Goldblatt, A., L. W. Goodman, S. S. Mick, and R. Stevens, "Licensure, Competence, and Manpower Distribution, A Follow-up Study of Foreign Medical Graduates," *New England Journal of Medicine*, Vol. 292, 1975, pp. 137-141.

Greer, J. E., "A View from South of the Border," *Journal of the American Medical Association*, Vol. 232, 1975, pp. 1036-1037.

Halberstam, J. L., L. Antler, H. A. Rusk, and J. D. Seltzer, "Foreign Interns in Community Hospitals," *Journal of Medical Education*, Vol. 46, 1971, p. 517.

Halberstam, J. and M. Dasco, "Foreign and U.S. Residents in University Trained Hospitals: An Investigation of U.S. Graduate Education," *Bulletin of the New York Academy of Medicine*, Vol. 42, 1966, pp. 182-208.

Halberstam, J. and G. Marsh, "Personality Stereotypes of United States and Foreign Medical Residents," *Journal of Social Psychology*, Vol. 68, 1966, pp. 187-196.

Haug, N. N. and R. Stevens, "Foreign Medical Graduates in the United States in 1963 and 1971: A Cohort Study," *Inquiry*, Vol. 10, 1973, pp. 26-32.

Hospital Practice, "To Solve Primary Care Lacks—The Carrot and/or the Stick," September 1974.

Kisch, A. I. and P. R. Torrens, "Health Status Assessment in the Health Insurance Experiment," *Inquiry*, Vol. 11, 1974, pp. 40-52.

Kleinman, J. C., R. J. Weiss, and D. S. Felsenthal, "Physician Manpower Data: The

Case of the Missing Foreign Medical Graduates," *Medical Care*, Vol. 12, November 1974, pp. 906-917.

Knobel, R. J., "Placement of Foreign-trained Physicians in U.S. Medical Residencies," *Medical Care*, Vol. 11, 1973, pp. 224-239.

Lachman, E., "The Foreign Medical Graduate: A Blessing or a Risk?" *Journal of the Oklahoma State Medical Association*, Part I, Vol. 67, February 1974, pp. 37-38; Part II, March 1974, pp. 79-80.

Levitt, L. P., "The United States Mental Health Care System and the Foreign Medical Graduate—An Overview," Paper presented at the Sun Valley Forum on National Health, 1975.

Lowin, A., *FMGs? An Evaluation of Policy-Related Research*, Minneapolis, Minnesota: InterStudy (Final Report NSF-C814), National Science Foundation), 1975.

Maltby, G. L., "Enlightened Standards of Medical Licensure," *Journal of American Medical Association*, Vol. 225, p. 296, 1973.

Mamot, Patricio R., *Foreign Medical Graduates in America*, Charles C. Thomas, Springfield, Illinois, 1974.

Margulies, H., L. Bloch, and F. Cholka, "Random Survey of U.S. Hospitals with Approved Internships and Residencies: A Study of the Professional Qualities of Foreign Medical Graduates," *Journal of Medical Education*, Vol. 43, 1968, pp. 706-716.

Mason, H. R., "Helping the Foreign Medical Graduate Qualify for Medical Practice," *Journal of Medical Education*, Vol. 48, 1973, pp. 684-686.

——, "FMGs: Up from the Underground," *Journal of Medical Education*, Vol. 9, April 1974, p. 402.

McDermott, W., "General Medical Care. Identification and Analysis of Alternative Approaches," *Johns Hopkins Medical Journal*, Vol. 135, 1974, pp. 292-321.

McGuiness, A. C., "FMGs: Into the Mainstream," *Journal of Medical Education*, Vol. 49, April 1974, p. 400.

Morehead, M. A., "Quality of Medical Care Provided by Family Physicians as Related to Their Education, Training and Methods of Practice," New York Health Insurance Plan of Greater New York, May 1958 (mimeo).

——, R. S. Donaldson, S. Sanderson, and F. E. Burt, *A Study of the Quality of Hospital Care Secured by a Sample of Teamster Family Members in New York City*, Columbia University School of Public Health, New York, 1964.

Moser, R. H., "Ruminations: The Guadalajara Dilemma," *Journal of the American Medical Association*, Vol. 232, 1975, pp. 1042-1043.

Myre, S., "The E.C.F.M.G. and its Relevance to British Medicine," *British Medical Journal Supplement*, Vol. 4, 1973, pp. 3554-3565.

National Advisory Commission on Health Manpower, *Report*, Volume I, Washington, D.C., 1967.

National Board of Medical Examiners, *Evaluation in the Continuum of Medical Education*, Report of The Committee on Goals and Priorities, Philadelphia, 1973.

Newhouse, J. P., "A Design for a Health Insurance Experiment," *Inquiry*, Vol. 11, March 1974, pp. 5-27.

Norton, L. and B. Eiseman, "Training Foreign Academicians in U.S. Medical Schools," *Journal of Surgical Research*, Vol. 14, February 1973, pp. 109-113.

Payne, B. C. and T. F. Lyons, *Methods of Evaluating and Improving Personal Medical Care Quality: Episodes of Illness Study*, American Hospital Association, Chicago, 1973a.

——, *Methods of Evaluating and Improving Personal Medical Care Quality: Office Case Study*, American Hospital Association, Chicago, 1973b.

Ravitch, M. M., "Why Are So Many Failing the Surgical Boards?" *Resident and Staff Physician*, November 1974, pp. 136-144.

Resident and Staff Physician, "Pass/Fail Rates and Other News from the Boards," November 1974, pp. 149-152.

Ronaghy, H. A., K. Cahill, and T. D. Baker, "Physician Migration to the United States. One Country's Transfusion Is Another Country's Hemorrhage," *Journal of the American Medical Association*, Vol. 227, February 1974, pp. 538-542.

Shires, G. T., "The Foreign Graduate as a Surgical Resident," *Surgery*, Vol. 70, October 1971, pp. 549-550.

Silva, Y. J., "Orientation of FMGs Is Hospital's Responsibility," *The Hospital Medical Staff*, Vol. 3, September 1974, pp. 21-26.

Silver, G. A., "Foreign M.D.s in a Cockeyed System," *The Nation*, Vol. 24, May 1975, pp. 622-624.

Sodeman, W. A., A. R. Castenada, F. D. Moore, and R. Warren, "The Foreign Medical Graduate's Role in American Medicine," *Archives of Surgery*, Vol. 107, September 1973, pp. 476-482.

Sprague, C. C., "The Foreign Medical Graduate—A Time for Action," *New England Journal of Medicine*, Vol. 290, June 1974, pp. 1482-1483.

Stevens, R., L. W. Goodman, S. S. Mick, and J. G. Darge, "How Many Immigrant Physicians? A Critical Look at Migration Statistics," Center for the Study of Health Services Publication W5-41, Yale University Institution for Social and Policy Studies, New Haven, February 1975.

Stevens, R. and J. Vermeulen, *Foreign Trained Physicians and American Medicine*, DHEW Publications No. (NIH) 73-25, Washington, D.C., 1974.

Sun Valley Forum on National Health Inc., *The Foreign Medical Graduate in the United States Health Care System*, 2 Palo Alto Square Building, Palo Alto, California, 1975.

Torrey, E. F. and R. L. Taylor, "Cheap Labor from Poor Nations," *American Journal of Psychiatry*, Vol. 130, April 1973, pp. 428-433.

U.S. Department of Health, Education, and Welfare (DHEW), "Migration of Foreign Physicians to the United States: The Perspective of the Health Manpower Planner," by K. N. Williams and B. A. Lockett, Division of Manpower Intelligence, Bureau of Health Resources Development, Health Resources Administration, prepared for the Pan American Conference on Health Manpower Planning, Ottawa, Canada, 10-14 October, 1973.

——, *Foreign Medical Graduates and Physician Manpower in the United States*, DHEW No. (HRA) 74-30, Health Resources Administration, Bureau of Health Resources Development, Washington, D.C., 1974.

——, *Outline Comparison of Recommendations Related to the Foreign Medical Graduate Issue in Selected Reports and Policy Statements*, Health Resources Administration, Bureau of Health Resources Development, Washington, D.C., 1975.

Weiss, R. J., J. C. Kleinman, U. C. Brandt, J. J. Feldman, and A. C. McGuiness,

"Foreign Medical Graduates and the Medical Underground," *New England Journal of Medicine*, Vol. 290, June 20, 1974a, pp. 1408-1413.

Weiss, R. J., J. D. Kleinman, U. C. Brandt, and D. S. Felsenthal, "The Effect of Importing Physicians,—Return to the Pre-Flexnerian Standard," *New England Journal of Medicine*, Vol. 290, June 27, 1974b, pp. 1453-1458.

Williams, K. N., "Issues of Physician Migration from the Perspective of the Recipient Countries," The Rand Corporation, P-5499, August 1975.

——, and B. A. Lockett, "Migration of Foreign Physicians to the United States: The Perspective of Health Manpower Planning," *International Journal of Health Services*, Vol. 4, Spring 1974, pp. 213-243.

Williams, K. N. and R. M. Politzer, A Comment on "Placement of Foreign-Trained Physicians in U.S. Medical Residencies," *Medical Care*, Vol. 12, 1974, pp. 621-623.

World Health Organization (WHO), *World Directory of Medical Schools, 1970*, Geneva, 1973.